



State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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March 3, 1998

TO: Minerals File

FROM: Tony Gallegos, Reclamation Engineer *aa*

RE: Site Inspection, Rio Algom Mining Corporation, Lisbon Mine, M/037001 San Juan County, Utah

Date of Inspection: February 20, 1998

Time of Inspection: 0850 - 1135

Conditions: Overcast, cold

Participants: Frank Fossey, Larry Axtell, Rio Algom Mining; Sal Venticinque, BLM; Tony Gallegos, DOGM

Purpose of Inspection: To discuss reclamation work remaining to be performed under the permit with the Division.

The inspection began with a meeting at the mine office. Mr. Frank Fossey and Larry Axtell had prepared an agenda of items (copy attached) they wanted to discuss during this inspection. We began by discussing the last four items on page two of the agenda since those items were the main focus of the Division's involvement.

Mr. Fossey explained they had been submitting annual reports for a number of years without updated maps as if they were an SMO. Was this a problem? There may have been some doubt regarding the map requirement because the actual surface disturbance currently bonded by the Division is five acres or less. Technically Rio Algom should have been providing maps with these reports as a Large Mine Operation. The way to resolve this would be to submit a current map with their next annual report. Mr. Fossey agreed to provide a map, but they would need an extension to the annual report deadline to prepare a current map. I suggested he send the Division a letter explaining the reason for this extension and his anticipated submittal date.

The next item discussed was the existence of drill holes which need to be plugged and the sites reclaimed. These sites include exploration drill holes and monitoring wells. The sites are located on BLM, State and patented lands. Some of the wells are over a thousand feet deep. In general, the exploration holes would need to be plugged according to the hole plugging section of the Minerals Rules. Monitoring wells may need to be plugged according to the Division of Water Quality regulations. I suggested Rio Algom contact the Division of Water Quality and Water Rights for plugging or decommissioning requirements for the monitoring wells.

Rio Algom would like to perform the hole plugging and site reclamation during the remainder of this year. Their first task would be to verify and locate all the exploration drill holes and monitoring wells which were shown on a map. They would also need to probe the holes to see if they were plugged or caved. Mr. Fossey raised the question of what to do if they have a hole which has water in it and they cannot determine if it was properly plugged. I did not have an answer for that type of situation, but suggested contacting the Division of Water Quality and our Division if such a situation arises. Deep holes which intercept underground aquifers would probably need to be plugged according to whichever agency's requirements are the most stringent.

We next discussed the mine dewatering system and how the sediment ponds functioned. Mr. Fossey explained that the water from the underground workings was pumped up the ventilation shaft and piped to two small settling ponds in the eastern end of the permit area which were called Tony's Ponds. The mine water went untreated into these two settling ponds (Tony's Ponds) and then went into the barium treatment pond. Water decanted from the barium treatment would then go into the Bisco Treatment Pond. Water from the Bisco Pond was used in dust suppression on the roads and as makeup water for the mill. The pond names originated from a boiler operator at the mine named Tony Brisco. The other small pond directly west of the barium treatment pond was for fire suppression. (See marked copy of a portion of the January 18, 1988 map.)

The barium treatment pond is a major focus of reclamation at this time because of the confusion regarding what should be done with the pond sediments. The pond is approximately 200 feet by 100 feet with the depth of sediments being approximately 18 inches. Mr. Fossey did run a gamma spectrometer(?) analysis of the sediments and came up with a reading of 400 - 600 picocuries per gram (pCi/gm). This test was run wet, so these reading were just a quick and easy approximation.

According to the NRC staff, who recently visited the mine site, the pond sediments cannot be placed in the tailings facility because they are not considered a process waste, i.e. they did not go through the mill. The high levels of barium in the sediments may categorize the sediments as a hazardous waste which requires offsite disposal at a licensed facility or the construction of a licensed facility onsite. In addition, the sediments may be high in radium which would make them a radioactive waste regulated by the Division of Radiation Control which may require offsite disposal at a licensed facility or construction of an engineer facility onsite. Rio Algom wanted to know the Division's position regarding reclamation of the ponds and the barium sediments.

To clarify reclamation of the barium pond, I reviewed the Division files and found a couple of documents dealing with this issue. The documents were a January 14, 1988 annual report with a map, and a February 22, 1988 inspection memo. Copies of these documents and some other assorted file documents were provided to Rio Algom. In these documents the Division and Rio Algom were trying to address the questions of who would reclaim this pond and how. According to these documents, the pond sediments were to be disposed of in the tailings facility within the NRC restricted area. This conflicts with the current information Rio Algom received from the NRC.

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A number of the drill holes and monitoring wells are located on lands which are not currently controlled by Rio Algom because they allowed the claims or leases to lapse. Rio Algom was going to look into the situation to avoid any possible problems with their access to these sites for plugging or reclamation. Some of these wells are located on state lands.

We then went through the agenda prepared by Rio Algom starting with page one. The first item was open wells and well site reclamation. We had already discussed this issue and it was suggested that the Division of Water Quality and Water Rights also be contacted prior to closure of any monitoring wells.

The second item was disposition of material from the barium chloride treatment pond. We had already discussed this issue at length; however, it should be noted that the pond is located on patented claims. Mr. Fossey intended to look through Rio Algom files, and the documents the Division had provided to clarify the reclamation of the ponds. The Division was to finish a file review to see if there were other documents relating to the reclamation of this pond.

The next item was approval of borrow area reseeded efforts. These borrow areas were located on BLM lands and they had been completely reclaimed, for the most part. These areas are probably due for revegetation success examination in the spring of 1998. BLM and Division staff would coordinate with Rio Algom to examine these areas in the spring. The Division would review the files to see if these areas were formally amended to the large mine permit.

The next item was disposal of wood/paper material by burning. That is something that would require Air Quality or County permits and would not necessarily involve the Division..

The next item was the final reclamation plan for the BLM. This plan is for reclamation of areas outside of the NRC jurisdiction. That is something Rio Algom will be clarifying by review of the BLM files, etc.

The next item was the burial area on patented claims. Rio Algom proposes to provide a map showing these burial areas and a listing of the materials and types of materials which have been buried in these areas. This information would be provided to the NRC, the BLM and the Division.

The next item on the agenda was the review of Rio Algom Mining Corporation file located at the BLM office. This is something which has not yet been completed.

The next item was final reclamation of miscellaneous utilities. Some of these utilities required a BLM easement or right-of-way. Rio Algom will be looking at the conditions or terms of those agreements to determine what reclamation is required.

The next item is the disposal of drill core samples. This involves ore samples found where the core shack was located near the ventilation shaft. The core shack was removed or buried. It

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is possible that some of the core shack materials were disposed of in the shaft. The issue here is what to do with these core samples on the surface. Rio Algom proposed to check the samples for radioactive hazards and then dispose of them accordingly by placing them in the tailings site or burying them near the shaft.

The next item was a copy or list of all applicable regulation and guidance. The Division has provided a recent copy of rules, and the BLM has also provided a copy of their regulations.

The next item is the EF-3 discharge line. This is the pump back pipeline. Water from the well in the contaminated aquifer is pumped from the aquifer through this line back into the tailings pond. The well is located on BLM land and will need to remain in place until the NRC decides that this system is no longer needed; that is, when the aquifer is considered clean.

The next item is all roadways on the property. There are a few roads which are County roads that access the property. There are other roads which are located within the NRC jurisdiction which will need to be reclaimed. All other roads will be reclaimed as required by the Division or BLM reclamation plan.

The classification of the Lisbon operation as a large or small mining operation and the review of the Division's closure plan for the Rio Algom mine were discussed earlier. The next item on the agenda was formal approval of production shaft and ventilation shaft closures. The ventilation shaft was capped and reclaimed some years ago. The Division will review the files for formal approval or release of those areas. The production shaft remains partially reclaimed at this time. Remaining reclamation of the production shaft includes demolition and removal of reinforced concrete structures around the top of the shaft. The shaft has been capped with concrete. Rio Algom has received approval from the NRC to bury the concrete debris in the burial site located on the side of the tailings embankment. The Division will review the files for information regarding the final disposition of the production shaft debris.

The next item discussed was the possibility of surface subsidence from underground mine workings and the regulatory requirements. Surface subsidence is not believed to be a concern at this site. Mr. Fossey agreed to provide information to support their contention that there will be no surface subsidence. This information may include geologic sections, depth of workings, dimensions of the underground mine workings, and also comparison to adjacent underground mine workings. In addition, the Division was to send him copies of the subsidence manual used to predict subsidence with underground coal mines.

We then visited the production shaft and barium treatment pond areas. Photographs were taken of these areas to document their current condition. A majority of the sediments from the Bisco Pond were removed and placed in the tailings repository before the NRC notified Rio Algom to cease.

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In conclusion, the Division would be working on the tasks described above and also look into the status of the reclamation bond. It was not known if the reclamation bond had been reduced or if the bond needed to be adjusted. Rio Algom would continue to search for information regarding reclamation of the ponds and sediments.

jb
Attachments: RAMC agenda, copy of section of January 19, 1988 map
cc: Frank Fossey, Rio Algom
Sal Venticinque, BLM
M37-01.ins

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RIO ALGAM

2/2/98

TONY

RAMC IDENTIFIED MINE CLOSURE ISSUES

- **OPEN WELL AND WELL SITE RECLAMATION.**

Findings: Reclamation of the wells should be completed as per the applicable State of Utah, Division of Oil, Gas and Mining regulations. BLM will accept the DOGM standards. A copy of the regulations was obtained from the BLM office. Drill sites should be contoured and re-seeded as per the same specifications as the borrow areas.

— CONTACT DWR & WATER RIGHTS FOR CLOSURE OF MONITORING WELLS

- **DISPOSITION OF MATERIAL FROM THE BARIUM CHLORIDE TREATMENT POND. (LOCATED ON PATENTED CLAIMS)**

Findings: Mr. Venticunque and Mr. Brent Northup indicated in-place burial would be acceptable.

- **APPROVAL OF BORROW AREA RESEEDING EFFORTS.**

Findings: Mr. Venticunque, BLM, will be out during the coming year for a final inspection of the re-vegetated areas. Mr. Venticunque indicated that he would like to arrange an inspection to include Mr. Gallegos with the DOGM to address common areas.

⇒ SPRING 1998

- **DISPOSAL OF WOOD/PAPER MATERIAL BY BURNING.**

Findings: The BLM has no concern or involvement with our plan to burn excess wood or paper products. We will need to obtain a burn permit from San Juan County.

- **FINAL RECLAMATION PLAN – BLM.**

Findings: Mr. Northrup indicated he would like to see a short general outline of our final reclamation plans in the areas not covered by the NRC.

- **BURIAL AREAS (Clean Material) on PATENTED CLAIMS AREA.**

Findings: The BLM personnel stated they had jurisdiction secondary to the State on the area covered by the patented claims. They would however like a map showing the burial areas and description of the material buried. This is an issue that we need to also address with the DOGM.

- **REVIEW OF RAMC FILE LOCATED AT THE MOAB BLM OFFICE.**

Findings: There was not time during this meeting for a complete review of our file. This will be done at a latter date.

- **FINAL RECLAMATION OF MISCELLANEOUS UTILITIES. (Water System, Natural Gas, Power Lines and Air Monitoring Sites).**

Findings: These structures are shown on the BLM right of ways map. We will need to obtain copies of the original Right of way permits to find specific reclamation requirements.

- **DISPOSAL OF CORE DRILLING SAMPLES.**

Findings: Mr. Northrup indicated we should determine that no radiological hazard exists from these cores and then they may be buried in-place.

- CORE SHACK AT VENT SHAFT WAS REMOVED/BURIED(?) & ^{SOME} CORE SAMPLES REMAIN

- **COPY OR LIST OF ALL APPLICABLE REGULATIONS AND GUIDANCE DIRECTIVES.**

Findings: We were supplied with a copy of 43 CFR 3809 and a copy of the DOGM rules.

- **EF-3 DISCHARGE LINE. - PUMPBACK LINE FROM WELL IN AQUIFER TO THINGS WATER POND**

Findings: We will need to remove this line and reclaim the area when it is no longer needed.

- WELL IS ON BLM LAND. NRC DECIDES WHEN WELL IS NO LONGER NEEDED, I.E. - SHALLOW AQUIFER IS CLEAN.

- **ALL ROADWAYS ON PROPERTY.**

Findings: We need to find the correspondence from San Juan County, which deeds the approach road right of way to RAMC. The right of way may contain conditions of reclamation. All other roads will need to be recontoured and Re-seeded.

- **CLASSIFICATION OF LISBON OPERATION AS LARGE OF SMALL MINING OPERATION.**

- **REVIEW OF DOGM  CLOSURE PLAN.**

- **FORMAL APPROVAL OF PRODUCTION SHAFT AND VENT SHAFT.**

- **POSSIBILITY OF SURFACE SUBSIDENCE FROM MINE WORKINGS.**

TAKEN FROM JAN. 18, 1988 MAP

M/037/001 RIO ALGOM









